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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/550,481	09/23/2005	Roland Aubauer	112740-1061	5409

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King & Spalding LLP
401 Congress Avenue
Suite 3200
Austin, TX 78701

EXAMINER	
HE, JIALONG	

ART UNIT	PAPER NUMBER
2626	

MAIL DATE	DELIVERY MODE
07/15/2009	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/550,481	AUBAUER, ROLAND	
	Examiner	Art Unit	
	JIALONG HE	2626	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *10 April 2009*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *10-18* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *10-18* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Request for Continued Examination

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 04/10/2009 has been entered.

Response to Arguments

2. Applicant's arguments have been considered but are moot in view of the new ground(s) of rejection necessitated by the amendments. The new limitation is not relied on Gammel and Hon, but on a newly cited reference to Everhart.

3. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claim Rejections - 35 USC § 112

4. The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

5. Claim 10-18 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

The applicant amended independent claims 10 and 16 by adding a new limitation "prior to any subsequent user input".

This limitation is not support in the original disclosure. Specification paragraph [**0024-0027**] and step 6-9 in figure show that in order to assign an non-recognized utterance to a command, the system requests the user to speaker the utterance again (**step 6, new recording**) and select an action with the aid of the user interface (**step 9, command assignment**).

Claim Rejections - 35 USC § 103

6. Claims 10-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gammel et al. (US Pat. 5,832,429, hereinafter referred to as Gammel) in view of Hon et al. (US Pat. 5,852,801, hereinafter referred to as Hon) and further in view of Everhart et al. (US Pat. 6,587,824, hereinafter referred to as Everhart).

With respect to independent **claim 10**, Gammel teaches a `speaker-dependent speech recognition method recognizing speech with a speech`

recognition system *(Fig. 1; col. 1, lines 6-8; col. 2, lines 1-20, the invention relates to speech recognition and a speech recognition database in a system comprising speaker dependent templates for recognition)*, the method comprising:

- providing that voice utterances of a user are trained and commands are assigned to the trained voice utterances *(col. 2, lines 12-20, telephone system contains speaker dependent templates for entry names and corresponding phone numbers for speed dial)*;

but although Gammel teaches a method to assign the voice utterance to a new command *(Figs. 4, 5, 7-9; col. 3, lines 33-45; col. 5, lines 12-23, new speed dial names are enrolled in a speed dial list)*, Gammel does not teach that it is done upon non-recognition of a voice utterance and via the speech recognition system. However, the examiner contends that this concept was well known in the art, as taught by Hon.

In the same field of endeavor of speech recognition, Hon teaches a method for speech recognition in which if a word is not recognized *(Fig. 2, element 115; col. 7, 28-35; col. 8, lines 28-29)*, the user is prompted to invoke a new word acquisition method *(Fig. 2, element 100, Fig. 3, element 169; col. 7, lines 36-48; col. 8, lines 50-60)*, and the unrecognized word may be added to the lexicon *(Fig. 2, element 117, Fig. 4, element 187; col. 7, lines 49-51; col. 9, lines 36-38)*, along with other user-provided attributes *(col. 9, lines 36-38)*. It is noted that a command is also a word with associated attributes, and that the recognized word may be a command *(col. 6, lines 33-36)*.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the speech recognition method of Gammel with the automatically

invoked step of adding a new voice utterance, as taught by Hon, in order to increase ease of use for users by not requiring prior knowledge of words not in the lexicon and providing a user interface for entering a word into the lexicon *(Hon, col. 1, line 57-col. 2, line 15)*.

The combined teaching of Gammel and Hon disclose assigning a non-recognized voice utterance to a new command but does not explicitly disclose providing an opportunity to add the new command prior to any subsequent user input.

Everhart discloses a method of improving speech recognition performance by adapting a speech recognition engine for a particular command (add new command) from a N-best matches for a particular speaker prior to any subsequent user input (**col. 2, lines 27-55, fig. 6, a particular command is adapted (added) to the system from previous command using N-best matches without requesting a user to repeat the voice command again** (prior to any subsequent user input)).

Gammel, Hon and Everhart are analogous art and from a similar field of applicant's endeavor in speech recognition. Therefore, it would have been obvious to a person having ordinary skill in the art at the time the invention was made to modify Gammel in view of Hon's teaching with Everhart's teaching to adapt (add) command without requesting user to repeat the command to train the system. One having ordinary skill in the art would have been motivated to make such a modification because the system is simple to use (**Everhart, col. 2, lines 23-25**).

With respect to **claim 11**, Gammel, Hon and Everhart teach everything claimed, as applied above (see claim 10); in addition, Gammel does not but Hon teaches a speaker-dependent speech recognition method as claimed in claim 10, wherein, upon the non-recognition of the voice utterance by the speech recognition system *(Fig. 3, col. 8, lines 28-29, the word cannot be determined)*, the user may one of repeat the voice utterance and assign a new command to the voice utterance *(Fig. 3, col. 8, lines 31-32, the user repeats the word or phrase (157))*.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the speech recognition method of Gammel with the step of allowing the user to repeat an unrecognized utterance, as taught by Hon, in order to increase the probability of correct recognition in the event that the user misspeaks or is otherwise inconsistent in speaking.

With respect to **claim 12**, Gammel, Hon and Everhart teach everything claimed, as applied above (see claim 10); but Gammel, Hon Everhart do not explicitly teach a speaker-dependent speech recognition method as claimed in claim 10, wherein if no command has yet been assigned to a voice utterance, the speech recognition system, after having been activated, offers the training of a new command. However, Gammel does teach that the telephone system stores speaker dependent templates, which are used for recognition for commands *(col. 1, lines 38-39; col. 2, lines 16-18 and 31-33)*, as well as a method for adding templates to the database *(Figs. 4, 5, 7-9; col. 3, lines 33-45; col. 5, lines 12-23)*. Since the

method of Gammel cannot be implemented without enrolled voice commands, the templates must have been created prior to using the method. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention to modify the method of Gammel to allow the user to create the templates if they have not already been created, because this enables the speech recognizer to be more useful to the user.

With respect to **claim 13**, Gammel, Hon and Everhart teach everything claimed, as applied above (see claim 10); in addition, Hon further teaches a speaker-dependent speech recognition method as claimed in claim 10, wherein upon the non-recognition of a voice utterance *(Fig. 3, col. 8, lines 12-18, the desired word is not the most likely recognized word)* for a command already trained by the speech recognition system *(Fig. 3, col. 8, lines 20-28, the desired word may be found on an N-best list of alternatives; Fig. 4, lines 15-19, the unrecognized word may already be in the lexicon)*, the user may select the command and assign the voice utterance to the selected command *(Fig. 3, col. 8, lines 20-28, the unrecognized word is selected from the N-best list; Fig. 4, col. 9, lines 15-27, the speech model is modified to increase the probability of recognition in the future)*.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the speech recognition method of Gammel with the step of allowing the user to correct an unrecognized utterance, as taught by Hon, in order to increase the future accuracy of the system by modifying it to a particular speaker's utterances *(Hon, col. 9, lines 15-27)*.

With respect to **claim 14**, Gammel, Hon and Everhart teach everything claimed, as applied above (see claim 10); in addition, Hon does teach a speaker-dependent speech recognition method as claimed in claim 10, wherein for recognition of a voice utterance, a voice pattern is generated which is assigned to the voice utterance *(col. 5, lines 46-65, utterance is divided and converted into observed vectors to represent the utterance data)*.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the method of Gammel with the vector creation step of Hon, because it would improve accuracy by fine-tuning the recognizer to a particular user's speech.

With respect to **claim 15**, Gammel, Hon and Everhart teach everything claimed, as applied above (see claim 10); in addition, Gammel further teaches a speaker-dependent speech recognition method as claimed in claim 10, wherein before a command is assigned to a voice utterance, a check is carried out to determine whether the voice utterance is similar to previously stored voice utterances *(Fig. 5, col. 6, lines 38-49, a check is made to determine if the word is already on the list or close to a word that is on the list)*.

With respect to independent **claim 16**, Gammel teaches a speech recognition system for a speaker-dependent recognition of voice *(Fig. 1; col. 1, lines 6-8; col. 2, lines 1-20, the invention relates to a speech recognition database in a system comprising speaker dependent templates for recognition)*, comprising:

- a voice recording device for recording a voice utterance of a user of the speech recognition system *(Fig. 1, col. 2, lines 6-8, system comprises a recognition and record circuit (14))*;
- a search engine for accessing a database which contains an assignment between voice utterances and commands in order to find a command assigned to the voice utterance *(Fig. 1, col. 2, lines 29-33; col. 2, lines 12-20, processor (12) with comparator and memory (15) compares user's utterance to speaker dependent templates for entry names and corresponding phone numbers for speed dial)*; and
- a conversion device for converting the command found due to the voice utterance *(col. 2, lines 48-55, telephone system recognizes command phrases and proceeds according to the requested command, for example automatically dialing numbers)*

but although Gammel teaches assign[ing] the voice utterance to a new command *(Figs. 4, 5, 7-9; col. 3, lines 33-45; col. 5, lines 12-23, new speed dial names are enrolled in a speed dial list)*, Gammel does not teach that it is done upon non-recognition of the voice utterance.

However, the examiner contends that this concept was well known in the art, as taught by Hon.

In the same field of endeavor of speech recognition, Hon teaches a system for speech recognition in which if a word is not recognized *(Fig. 2, element 115; col. 7, 28-35; col. 8, lines 28-29)*, the user is prompted to invoke a new word acquisition method *(Fig. 2, element 100, Fig. 3, element 169; col. 7, lines 36-48; col. 8, lines 50-60)*, and the unrecognized word may be added to the lexicon *(Fig. 2, element 117, Fig. 4, element 187; col. 7, lines 49-51; col. 9, lines 36-38)*,

along with other user-provided attributes *(col. 9, lines 36-38)*. It is noted that a command is also a word with associated attributes, and that the recognized word may be a command *(col. 6, lines 33-36)*.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the speech recognition system of Gammel with the automatically invoked step of adding a new voice utterance, as taught by Hon, in order to increase ease of use for users by not requiring prior knowledge of words not in the lexicon and providing a user interface for entering a word into the lexicon *(Hon, col. 1, line 57-col. 2, line 15)*.

The combined teaching of Gammel and Hon disclose assigning a non-recognized voice utterance to a new command but does not explicitly disclose providing an opportunity to add the new command prior to any subsequent user input.

Everhart discloses a method of improving speech recognition performance by adapting a speech recognition engine for a particular command (add new command) from a N-best matches for a particular speaker prior to any subsequent user input (**col. 2, lines 27-55, fig. 6, a particular command is adapted (added) to the system from previous command using N-best matches without requesting a user to repeat the voice command again** (prior to any subsequent user input)).

Gammel, Hon and Everhart are analogous art and from a similar field of applicant's endeavor in speech recognition. Therefore, it would have been obvious to a

person having ordinary skill in the art at the time the invention was made to modify Gammel in view of Hon's teaching with Everhart's teaching to adapt (add) command without requesting user to repeat the command to train the system. One having ordinary skill in the art would have been motivated to make such a modification because the system is simple to use (**Everhart, col. 2, lines 23-25**).

With respect to **claim 17**, Gammel, Hon and Everhart teach everything claimed, as applied above (see claim 16); in addition, Gammel further teaches a speech recognition system as claimed in claim 16, wherein the voice recording device *(Fig. 1, col. 2, lines 6-8, system comprises a recognition and record circuit (14))* is connected to a memory in which the voice utterance is temporarily stored *(Fig. 1, col. 2, lines 29-33; col. 2, lines 12-20, processor (12) with comparator and memory (15))* and which is connected to the database for reading the voice utterance into the database *(Fig. 1, col. 2, lines 29-33, encoded templates are in the memory (15))*.

With respect to **claim 18**, Gammel, Hon and Everhart teach everything claimed, as applied above (see claim 16); in addition, Gammel does not but Hon does teach a speech recognition system as claimed in claim 16, further comprising a feature extraction device for generating a voice pattern from the voice utterance *(Fig. 1A, 1C, & 2; col. 5, lines 46-65, signal processor (111) divides the digitized utterance into frames and creates a vector for each slice of the vector)*, the feature extraction device being arranged between the voice

recording device and the memory *(Fig. 1A, sound sampling device (11), memory (3), and digital signal processor (6) are all connected via a bus (1))*, with the voice pattern replacing the voice utterance (*col. 5, lines 46-65; col. 6, lines 7-18; vectors represent and summarize the utterance, and are used in the comparison*) .

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the system of Gammel with the vector creation step of Hon, because it would improve accuracy by fine-tuning the recognizer to a particular user's speech.

Conclusion

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to JIALONG HE whose telephone number is (571) 270-5359. The examiner can normally be reached on Monday-Thursday, 7:00AM-4:30PM, ALT. Fridays, EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richemond Dorvil can be reached on (571)272-7602. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should

you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/JH/

/Richemond Dorvil/
Supervisory Patent Examiner, Art Unit 2626